

# SEQUENCE LISTING

#7

<110> Francis, Kevin P.  
Contag, Pamela R.  
Joh, Danny J.

<120> LUCIFERASE EXPRESSION CASSETTES AND METHODS OF USE

<130> 9400-0006

<140> US/09/657,289

<141> 2000-09-07

<160> 26

<170> PatentIn Ver. 2.0

<210> 1

<211> 6

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gram-positive  
ribosome binding site

<400> 1

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6

<210> 2

<211> 41

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer XAF3

<400> 2

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41

<210> 3

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer XAR

<400> 3

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36

<210> 4

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<212> DNA

ORIGINAL FILED IN 9400-0006

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer XBF

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gggaattctc gaggaggaga gaaagaaatg aaatttgga

39

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<211> 37

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer XBR

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37

<210> 6

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer XCF

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34

<210> 7

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer XCR

<400> 7

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37

<210> 8

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer XDF

<400> 8

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37

<210> 9

<211> 37

<212> DNA  
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 <223> Description of Artificial Sequence: LUXA-REV  
  
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 ccacactcct cagagatgcg  
  
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 <211> 6  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: BamH I  
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 <400> 13 6  
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<210> 14  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: vector  
sequence

<400> 14  
ggatcctgca gatgaagcaa gaggaggact ctctatg 37

<210> 15  
<211> 645  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pMK4 luxABCDE  
Sal

<400> 15  
atztatctaa agatgagatt aagccaatag aacgtcatta gcaaaataaa ttatatgtcg 60  
tcctacaagc aagttcatgc ttatgtttgt aggggggttat tgtggagaat aaaattat 120  
ccaatagaga agggatggta atcatTTTTat agtgaaatat tatgaaattg taataattta 180  
gatattgtaa aatctaataa gttgtaataa ttttaagggg taattataaa atttgatgat 240  
acagtatatg atttttttgt aatcataatg tcatcaaaca tcaacctatt atacataata 300  
aaatcgtata atgatgtagt attcataaat tcggataaaa gaatgttagg aaagttaagc 360  
aagaggagga ttttaaagtg caaaaaaaag taattgcagc tattattggg acaagcgcg 420  
ttagcgctgt tgcggcaact caagcaaagtg cggctacaac tcacacagta aaaccgggtg 480  
aatcagtggtg ggcaatttca aataagtagt ggatttcgat tgctaaatta aagtcattaa 540  
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<213> Artificial Sequence

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<222> 26  
<223> /note = "'n' represents an a or g or t or c polymorphism at this  
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<220>  
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<222> 79  
<223> /note = "'n' represents an a or g or t or c polymorphism at this  
position

<220>  
<223> Description of Artificial Sequence: pMK4 luxABCDE  
Sa2

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gtatacaaac aattcgttta gatcgactt atttaaacad accagaatta agaagcgtat 180
taaattagtt gctgaaaaga attatgacca aataagttct attgaagaac aagaatttat 240
tggtgatttg attcaagtca atccaaatgt taaagcgcaa tcaatttttag atattacatc 300
ggattctgtt ttccataaaa ctggaattgc gcgtgggtcat gtgctgtttg ctcaggcaaa 360
ttcgttatgt gttgcgctaa ttaagcaacc aacagtttta actcatgaga gtagcattca 420
atattattgaa aaagtaaaat taaatgatac ggtaagagca gaagcacgag ttgtaaatca 480
aactgcaaaa cattattacg tcgaagtaaa gtcatatgtt aaacatacat tagttttcaa 540
aggaaatattt aaaatgtttt atgataagcg aggataaaat tatgggttaa ttagcaattg 600
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aagactttaa a 671

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<210> 17
<211> 623
<212> DNA
<213> Artificial Sequence

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<220>
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<222> 19
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

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<220>
<221> base_polymorphism
<222> 32
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
<221> base_polymorphism
<222> 37
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

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<220>
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<222> 48
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

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<220>
<221> base_polymorphism
<222> 85
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
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<222> 103
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>  
 <221> base\_polymorphism  
 <222> 154  
 <223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
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<400> 17  
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 gaaggcgctc gggcggcctt ttcgntattc gcagctgcga aangggatgt gctgaaggcg 120  
 attaagttgg gtaacgccag ggtttcccag tcangcgttg taaacggcgg ccagtgaatt 180  
 cccggggatc aagccgttta agtattacga ccagtttata tcattcatgg taaaggacag 240  
 ggccttcaaa aagggtgtaca acaacatttg aaaagcataa agtgttagt acttagaggt 300  
 ggtatgccaa ggaagggtgga tttggcggtt ccgttgcaac actaaaataa attataattt 360  
 gataaattaa atagctgcag ttaaaataat gtaaagcaac aagaatacat ttcaaactg 420  
 ttatttgaaa taagcataaa aattgagcaa atagaaatac atgaagcatg ttatctgata 480  
 taatttgaa atcataataa taattaagga ggattggcat ttatggcaat cgtaaaagta 540  
 acagatgcag attttgattc aaaagtagaa tctggtgtac aactagtaga tttttgggca 600  
 acatggtgtg gtccatgtaa aat 623

<210> 18  
 <211> 671  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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 <222> 249  
 <223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
 <223> Description of Artificial Sequence: pMK4 luxABCDE  
 Sa4

<400> 18  
 gatgtatatt cacggggcac atgctgccga aaagcatcac cattaggtgc aatgtcatta 60  
 ctattgggac ggtttttata ttttattgct actcaagggt ttgtaaatat gcaattaatc 120  
 ggtgcgatta tctttgtatt aattacaggt cctcttttca agtcatatga ttatgaaagc 180  
 agcatataat attaaaacgc cttatactaa aaagactaaa gcgatgaaat ttcggaagac 240  
 ttaaaagcnc aaaattgtag attatataac aaaatcatga atataaatca acaacaaaca 300  
 gcagtaagat gattccaaat taggaatgat tttactgctg ttttcttttg acattgttac 360  
 ctctttttca atgatttttt ctttgactac agattcgccc tatctacata tatctcttta 420  
 atttaattgc ctttcatgtc gttatgtatt atgataataa taattataaa tcgtaacgat 480  
 tacgttttaa aaagagagag gttttattat gcattggaca attatcggcg gtggcataca 540  
 gggaactgca atcgacaaa aactattatc aagcggatta acaacagacc gattaacaat 600  
 cattgaccca cacgaaactt tttgcaaag gtttaactca tatacaaatac gaatagaaat 660  
 gccttattta a 671

<210> 19  
 <211> 650

<212> DNA  
<213> Artificial Sequence

<220>  
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<222> 1  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
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<222> 7  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
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<222> 8  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
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<222> 34  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<221> base\_polymorphism  
<222> 113  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<221> base\_polymorphism  
<222> 118  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<223> Description of Artificial Sequence: pMK4 luxABCDE  
Sa5

<400> 19  
naccagnnaa aatggtaata aaaatggcag aagnaataaa aaaaggataa agagatccca 60  
aacggtatag agcttagtat aaaattttcg gacaataaaa taaatacggg ttnaaccnaa 120  
ttttaacggg aaagcacttc agaatatggt gtgtttgatc aagaataaaa ttaatgatga 180  
aaatttaacg gagaatagt tatattgagt agatcaagaa taaaaagata attctactat 240  
tgttggaag gcaaataagt agaagatttt aagtgtatt tctgggtgatt taaataataa 300  
tataaatgga agtactgata taaaactttt taacctacta gattcttata atttgctttc 360  
cattttatga cgattttttac tcaattgagt gatagaatca aaaaagccat ctcaaaaatt 420  
aatcaagcaa acaacattcc aaacaatgct cgcaaatcac caatgtatca ctctccaatt 480  
acgtaactat gatttaattt aagcatagtt attgaggttt tgtgatatat agtataaaat 540  
taatgagaat taaatttaat aatgtaaaat tcattcttcgg ggtcgggtgt aattcccaac 600

cggcagtaaa taaagcctgc gacctgctag tatgtatcat attagtggct

650

<210> 20

<211> 677

<212> DNA

<213> Artificial Sequence

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<221> base\_polymorphism

<222> 19

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<221> base\_polymorphism

<222> 66

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<221> base\_polymorphism

<222> 97

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<221> base\_polymorphism

<222> 99

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<221> base\_polymorphism

<222> 119

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<223> Description of Artificial Sequence: pMK4 luxABCDE

Sa6

<400> 20

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cggaagaacg ctttgaagnt taagctaatt acatctcatc atatgcacgg agatccttaa 60
atgccnaatt gaaagatatt tatatgaatc atcgagneng tcttgatgta gctattgcna 120
gcagatgata tttgtccagc aataactaat ggggaacaag tgaaaggcct ttacctttat 180
ggtccatttg ggcaggtaaa tcttttattc taggtgcaat tgcggaatca gctcaaattc 240
aagaaggtag gttcgacaat tatttattta ccgggaattt attagaacat taaaaggtag 300
ctttaaagat ggttcttttg aaaagaaatt acatcgcgta agagaagcaa acattttaat 360
gcttgatgat attggggctg aagaagttag tccatgggtg agagatgagg taattggacc 420
tttgctacat tatcgaatgg ttcattgaatt accaacattc tttagttcta attttgacta 480
tagtgaattg gaacgtgtca aatctttgtc aacaccatac tttttatcag gagaaaattt 600
cagaaacaat tgaattttta aatgatttgg gtataatgaa tacaaatcta aatcgtttaa 660
atgattgaag acaagat                                     677
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<210> 21  
<211> 622  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> base\_polymorphism  
<222> 7  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<221> base\_polymorphism  
<222> 33  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<221> base\_polymorphism  
<222> 97  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<221> base\_polymorphism  
<222> 126  
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
<223> Description of Artificial Sequence: pDL289  
luxABCDE Sp1

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cgccgccctt ggttacttgt tgtcaattag accatgnaat aaagtaagcg gacatggtat 120  
aatagntagg tcgcaacggt ctttcgctaa gttacgaact tagattggag gtgagcgccc 180  
aatacgcaaa ccgcctctcc ccgcgcgttg ccgattcatt aatgcagctg gcacgacagg 240  
tttcccgact ggaaagcggg cagtgcgcgc aacgcaatta atgtgagtta gctcactcat 300  
taggcacccc aggcctttaca ctttatgctt ccggctcgta tgttggtgtg aattgtgagc 360  
ggataacaat ttcacacagg aaacagctat gaccatgatt acgccaagct atttaggtga 420  
cactatagaa tactcaagct atgcatccaa cgcgttgga gctctccgga tcaggtcatt 480  
cgagttaccg atttatcaca tagatgatat ggtaagattc agttagaaga aagagtcaca 540  
aacacacttt gtggcttttt tatttccata aaaatggtaa aatagtagga gtagaatgg 600  
agttcgagac atgaaagtaa ta 622

<210> 22  
<211> 610  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> base\_polymorphism  
<222> 119

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<223> Description of Artificial Sequence: pDL289  
luxABCDE Sp5

<400> 22

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agacaaagaa cgctccgcct tggacttgt tgtcaaatta gaccatggaa taaagtaagc 60
ggacatggta taatagctag gtcgcaacgt tctttcgcta agttacgaac ttagattgna 120
ggtgagcgcc caatacgcaa accgcctctc cccgcgcgtt ggccgattca ttaatgcagc 180
tggcagcaca ggtttcccgga ctggaaagcg ggcagtgagc gcaacgcaat taatgtgagt 240
tagctcactc attaggcacc ccaggcttta cactttatgc ttccggctcg tatgttgtgt 300
ggaattgtga gcggataaca atttcacaca ggaaacagct atgaccatga ttacgccaaag 360
ctatttaggt gacactatag aatactcaag ctatgcatcc aacgcgttgg gagctctccg 420
gatcgtctgc caggttcagc aacacgcccc catccgggcg caagtggctg gaccaatgca 480
actggaaaga agagagctcg gcgcagagaa cgtcgaggcg aggggtggcc gtgagggcgt 540
cgaaaagcga aacgccgata ttgccaccg ccagtgcgcg cttgccggtg cgcttggcat 600
ctgcctgcat 610
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<210> 23

<211> 626

<212> DNA

<213> Artificial Sequence

<220>

<221> base\_polymorphism

<222> 12

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<223> Description of Artificial Sequence: pDL289  
luxABCDE Sp6

<400> 23

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acagctatga ccatgattac gccaaagctta tttagggtgac actatagaat actcaagcta 120
tgcattccaac gcgttgggag ctctccggat caaaatgaca atcggcagca tgtgctggat 180
ggattatgag agtcggacat cttgcctagg acgcgccccca actgggagca gcccttcac 240
aaggagtaca gcaaatcatt gccgctgcgc ggcattgaact cgtgggcttc aaagcttgcc 300
cacatcttct tgcgggcaaa gataccggca ataccgagga tgaggaccac tagcgagata 360
aggaaaggaa cgttgagccc gtgccagagg gcaagggtgcg aatgatgctc caatcccacg 420
gcagccactg catcatcgat cggggcatca aagagcccga gcacaaatac cagcggcaga 480
gacataaagc ccggcaaagc tgcaggtagc cacagcgaca ctggtgcttc atggacatct 540
cccatgtcgc gaggtccgct aaagaaggcg ccgaagacaa tctttgcgga gtaagtaaag 600
gtgaagaacg caccgatacc ggcaac 626
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<210> 24

<211> 607

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pDL289  
luxABCDE Sp9

<400> 24

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aaaagaagat tctgttgag agcgggcgga acgagtaggc tatgtgctgc aaaatcccaa 120
tcaaatgatt tcaaccaata tgatttttga tgaggtaggt ctgggactcc gtttgcgagg 180
tgtggacgag caggaaattg aaacgagagt ctatgaaacc ttgaaaatct gtggtctcta 240
tgaattccgt aattggccca tttctgccct gtcatttggg cagaaaaaac gtgtgactat 300
tgcctcaatt ttggtcttag gcgctgaaat tatcctccta gatgaaccga ctgagggtca 360
agaccagaag aactatactg agattatgga atttctcgaa gaactgcatc aacaagggca 420
taccattgtc atgattaccc atgatatgca attgatgctg gattattcag atcgagccct 480
tgtcatggtg gatggggaat tgattgctga tactgatcca gctagtctgt tgagcaatcc 540
tgagctgtta gtaaaagcca acctaaaaga gacttctatc ttcaacttgg ctaagaaact 600
cgacgtg                                         607
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<210> 25

<211> 616

<212> DNA

<213> Artificial Sequence

<220>

<221> base\_polymorphism

<222> 91

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>

<223> Description of Artificial Sequence: pDL289  
luxABCDE Sp16

<400> 25

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tttgccacta cgaagatgac ctaagtcagt ncaagaagaa attattaaga aaaataaagg 120
tgaagactta atccgtcctc actctagaag gaagtcactt agtggcttcc ttttgccttt 180
agaaaatacc tctaaatatg gtaaaatagt agaagaataa tgtgaggaaa atgaatgtca 240
aatagttttg aaatttttag gaatcaattg gggatgcctg ctgaaatgag acaggctcct 300
gcttttagcac aggccaatat tgagcgagtt gtggttcata aaattagtaa ggtatgggag 360
tttcatttcg tattttctaa tattttaccg attgaaatct ttttagaatt aaagaaagg 420
ttgagcgaag aattttctaa gacaggcaat aaagctgttt ttgaaattaa ggctcgggtc 480
caagaatttt caaatcagct cttgcagtc tactataggg aggctttctc tgaagggtcca 540
tgtgctagtc aagggtttta gtccctttat caaaatttgc aagttcgtgc tgagggtaat 600
cagctattta ttgaag                                         616
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<210> 26

<211> 609

<212> DNA

<213> Artificial Sequence

<220>

<221> base\_polymorphism

<222> 36

<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
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 <222> 76  
 <223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>  
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 luxABCDE Sp17

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 cgctgccctg actgengacg gcgcctccct ccgcaccgc gccgaatgca tccccgaagc 120  
 catggccaag gcctataagg aggtaggcct cgaccttgcc gagttcaaga aatcgctgac 180  
 atcctggccg gcgtgcctgt ggacgtggag ctgccgtggc catctgggga tgactttgtg 240  
 ggttaaagtg tggccttcat atagcagatg aggacggcta tactggctta agagttttga 300  
 ctctatttac gtaaaatttt ttcacactat gagaggaggg gccatggcta cagcagtaga 360  
 cgtcgcgcag gttatctaca acaaactggg gtgggtcgat gcgtggaagc tggagaagct 420  
 tacgtattac tgccaagcgt ggagcctggg ctggtacggg cgacctcttg tctcgaatga 480  
 atttcaggcg tggaaggacg gtccggttga acccgacctc tatcgcgaga ataaatatca 540  
 acgctccgag aaatcctcca cgggtgttacc gggagctgat gtagaggcta taggggagga 600  
 agccgaaaa 609